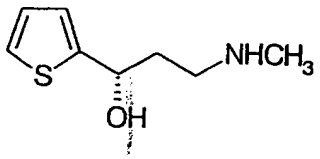
We claim:

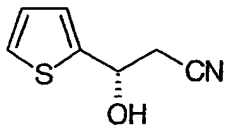
1. A process for the preparation of enantiomerically pure (S)-3-methylamino-1-(thien-2-yl)propan-1-ol of the formula II-S



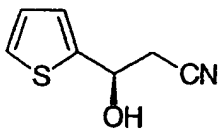
II-S

comprising the following steps:

a) reaction of an enantiomer mixture of the alcohols (S)-3-hydroxy-3-thien-2-ylpropionitrile and (R)-3-hydroxy-3-thien-2-ylpropionitrile of the formulae I-S and I-R



I-S



I-R

with an acylating agent in the presence of a hydrolase, a mixture of essentially unacylated alcohol I-S and essentially acylated alcohol I-R being obtained;

b) separation of the alcohol I-S from the mixture obtained in step a); and

c) reaction of the alcohol I-S with hydrogen and methylamine in the presence of a catalyst to give (S)-3-methylamino-1-(thien-2-yl)propan-1-ol II-S.

2. A process as claimed in claim 1, where the hydrolase in step a) is selected from among lipases from bacteria of the genera Burkholderia or Pseudomonas.

3. A process as claimed in claim 2, where the lipase is a lipase from Burkholderia plantarii, Burkholderia cepacia, Burkholderia glumae, Pseudomonas aeruginosa, Pseudomonas fluorescens, Pseudomonas fragi, Pseudomonas luteola, Pseudomonas vulgaris, Pseudomonas wisconsinensis and Pseudomonas spec. DSM 8246.

4. A process as claimed in one of the preceding claims, the acylating agent being selected from the vinyl, propenyl or isopropenyl esters of aliphatic monocarboxylic acids having 3 to 12 carbon atoms and of aliphatic dicarboxylic acids having 3 to 12 carbon atoms, the acid anhydrides of aliphatic monocarboxylic acids having 2 to 12 carbon atoms and the acid anhydrides of aliphatic dicarboxylic acids having 4 to 12 carbon atoms.

5. A process as claimed in one of the preceding claims, the reaction in step a) being carried out in a nonaqueous reaction medium.

6. A process as claimed in one of claims 1 to 4, the reaction in step a) being carried out in substance.

7. A process as claimed in one of the preceding claims, 1 to 1.5 mol equivalents of the acylating agent, based on the content of alcohol I-R in the enantiomer mixture, being employed in step a).

8. A process as claimed in one of the preceding claims, the enantiomer mixture employed in step a) being the racemate of the alcohols I-S and I-R.

9. A process as claimed in one of the preceding claims, in which the enantiomer mixture of the alcohols I-R and I-S employed in step a) is obtained by reaction of thiophene-2-carbaldehyde with acetonitrile in the presence of a base.